

AMENDMENTS TO THE CLAIMS:

Claim 1 (currently amended): ~~A hybrid drive system for a vehicle, comprising:~~

~~a transmission 2 for changing rotation of an input shaft to transmit the changed rotation from an output shaft to wheels;~~

~~a first clutch 3 to connect and disconnect power transmission between an output shaft of an engine 1 and the input shaft of the transmission 2;~~

~~a rotating electric machine 4 to serve as both a motor and an electric generator;~~

~~a second clutch 30 to connect and disconnect power transmission between an input/output shaft of the rotating electric machine 4 and the input shaft of the transmission 2;~~

~~a storage device 9 to store electric power supplied from the rotating electric machine 4;~~
and

~~a second clutch control unit 10 to perform control of a rotational speed of the rotating electric machine 4 when the second clutch 30 is connected, wherein:~~

~~the second clutch control unit 10 connects the second clutch 30 after a difference in speed between the rotational speed of the rotating electric machine 4 and a rotational speed at the transmission side falls within a permissible range.~~

A hybrid electric drive system for a vehicle comprising:

a combustion engine;

a transmission comprising an input shaft and an output shaft and transmitting rotational torque between the input shaft and the output shaft;

a first clutch adapted to connect the engine to the input shaft of the transmission and to disconnect the engine from the input shaft of the transmission;

a rotating electric machine which serves as a motor as well as a generator;

a second clutch which can connect the rotating electric machine to the input shaft of the transmission and disconnect the rotating electric machine from the input shaft of the transmission;

a storage device which stores electric power generated by the rotating electric machine;

a control unit programmed to:

control a rotational speed of the rotating electric machine, when the second clutch is commanded to connect the rotating electric machine to the input shaft of the transmission, so as to decrease the difference between the rotational speed of the rotating electric machine and a rotational speed of the input shaft of the transmission; and

cause the second clutch to connect the rotating electric machine to the input shaft of the transmission only after the difference decreases to a value within a predetermined allowable range.

Claim 2 (currently amended): ~~The hybrid drive system for a vehicle according to claim 1, wherein:~~

~~the second clutch control unit 10 switches the control of the rotational speed of the rotating electric machine 4 to a torque control when the second clutch 30 is connected.~~

The hybrid electric drive system as defined in Claim 1, wherein the control unit is further programmed to stop controlling the rotational speed of the rotating electric machine and start controlling a rotational torque of the rotating electric machine, when the second clutch has connected the rotating electric machine to the input shaft of the transmission.

Claim 3 (currently amended): ~~The hybrid drive system for a vehicle according to claim 1, further comprising:~~

~~a rotation transmission mechanism 5 disposed between the input/output shaft of the rotating electric machine 4 and the input shaft of the transmission 2, wherein:~~

~~the second clutch 30 is disposed between the rotating electric machine 4 and the rotation transmission mechanism 5.~~

The hybrid electric drive system as defined in Claim 1, wherein the system further comprises a gear mechanism which transmits rotation between the rotating electric machine and the input shaft of the transmission, and the second clutch is interposed between the rotating electric machine and the gear mechanism.

Claim 4 (currently amended): ~~The hybrid drive system for a vehicle according to claim 1, further comprising:~~

~~a rotation transmission mechanism 5 disposed between the input/output shaft of the rotating electric machine 4 and the input shaft of the transmission 2, wherein:~~

~~the second clutch 30 is disposed between the rotation transmission mechanism 5 and the input shaft of the transmission 2.~~

The hybrid electric drive system as defined in Claim 1, wherein the system further comprises a gear mechanism which transmits rotation between the rotating electric machine and the input shaft of the transmission, and the second clutch is interposed between the gear mechanism and the input shaft of the transmission.

Claim 5 (currently amended): ~~The hybrid drive system for a vehicle according to claim 1,~~
~~wherein:~~

~~the storage device includes an electric double layer capacitor.~~

The hybrid electric drive system as defined in Claim 1, wherein the storage device
comprises an electric double layer capacitor.